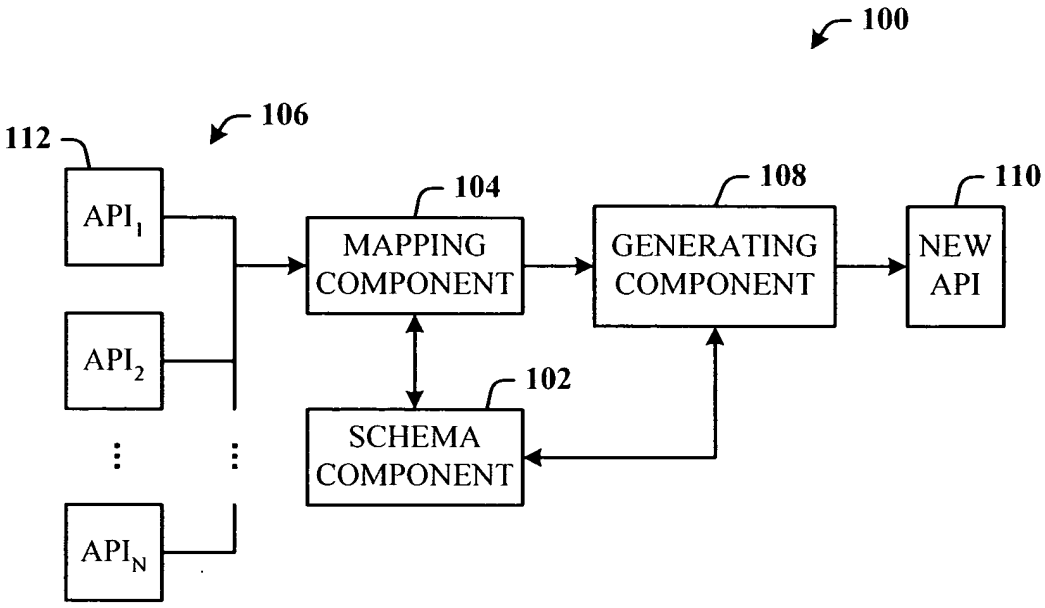
100
106
112
API1
API2
APIN
104
MAPPING COMPONENT
108
GENERATING COMPONENT
110
NEW API
102
SCHEMA COMPONENT

FIG. 1

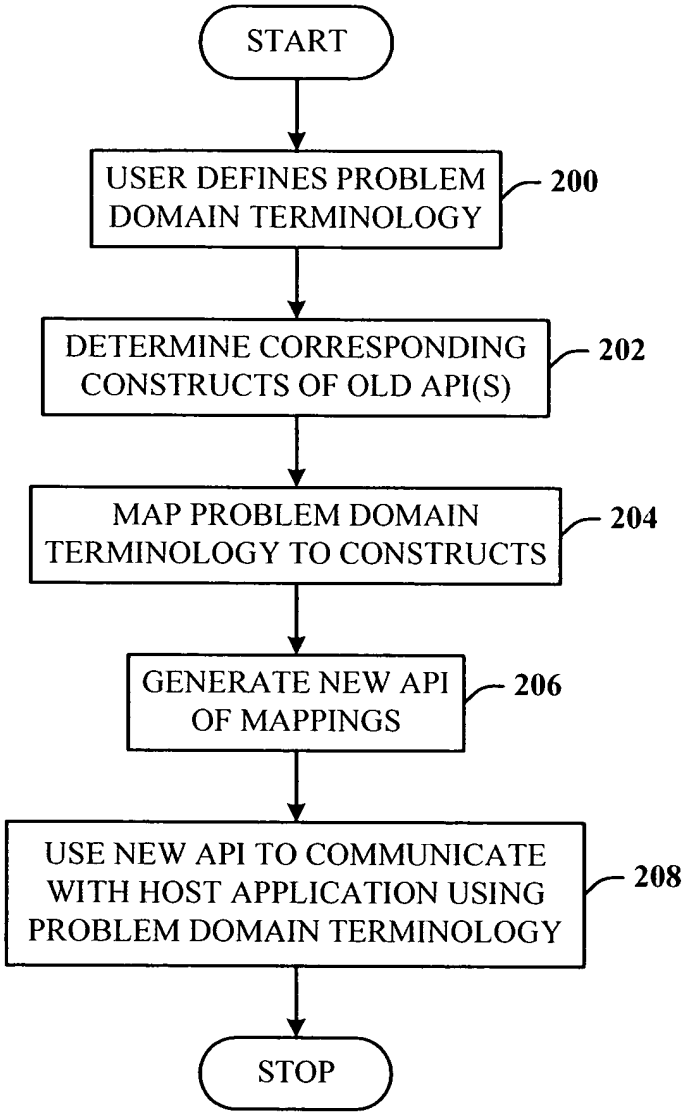
START
USER DEFINES PROBLEM DOMAIN TERMINOLOGY
200
DETERMINE CORRESPONDING CONSTRUCTS OF OLD API(S)
202
MAP PROBLEM DOMAIN TERMINOLOGY TO CONSTRUCTS
204
GENERATE NEW API OF MAPPINGS
206
USE NEW API TO COMMUNICATE WITH HOST APPLICATION USING PROBLEM DOMAIN TERMINOLOGY
208
STOP

FIG. 2

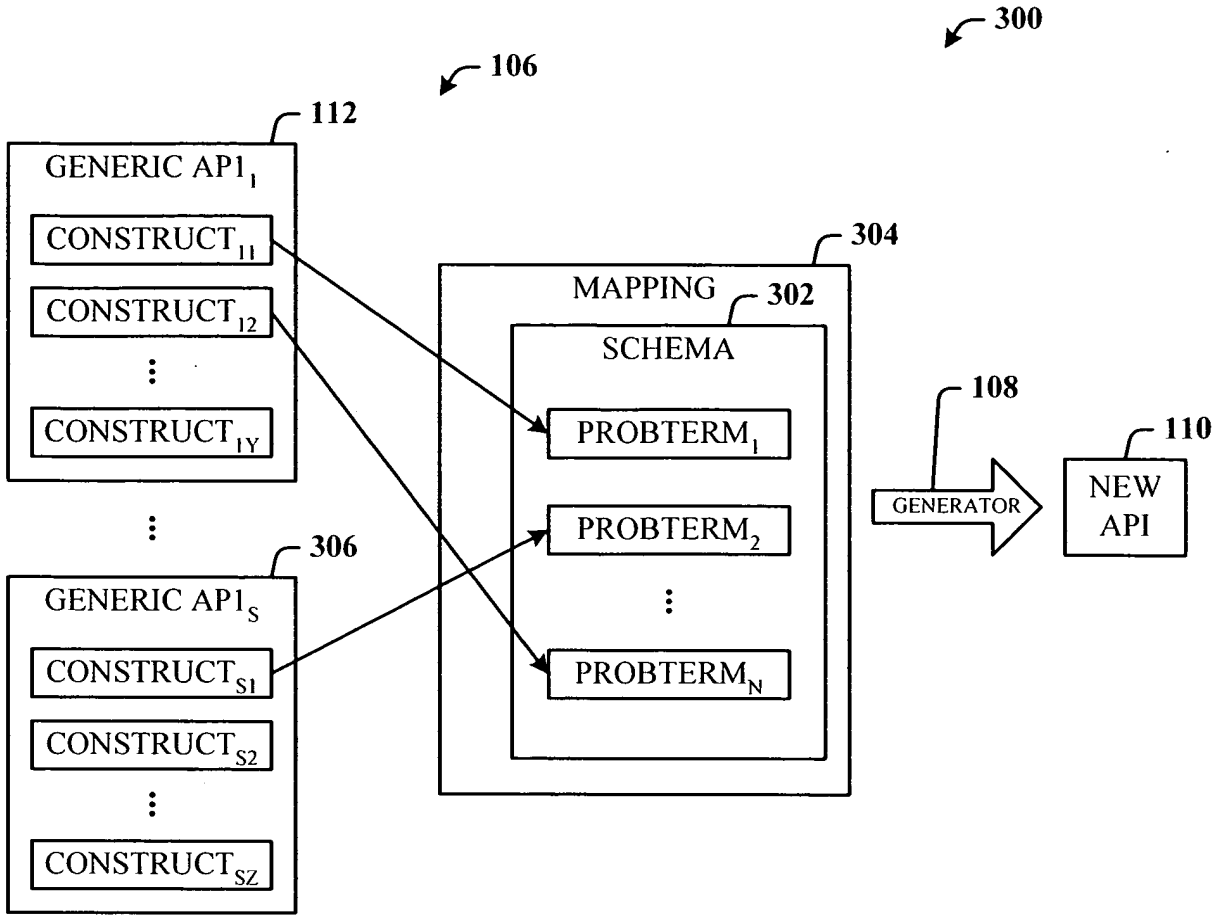
300
106
112
GENERIC AP1$_1$
CONSTRUCT$_{11}$
CONSTRUCT$_{12}$
CONSTRUCT$_{1Y}$
304
MAPPING
302
SCHEMA
PROBTERM$_1$
PROBTERM$_2$
PROBTERM$_N$
108
GENERATOR
110
NEW API
306
GENERIC AP1$_S$
CONSTRUCT$_{S1}$
CONSTRUCT$_{S2}$
CONSTRUCT$_{SZ}$

FIG. 3

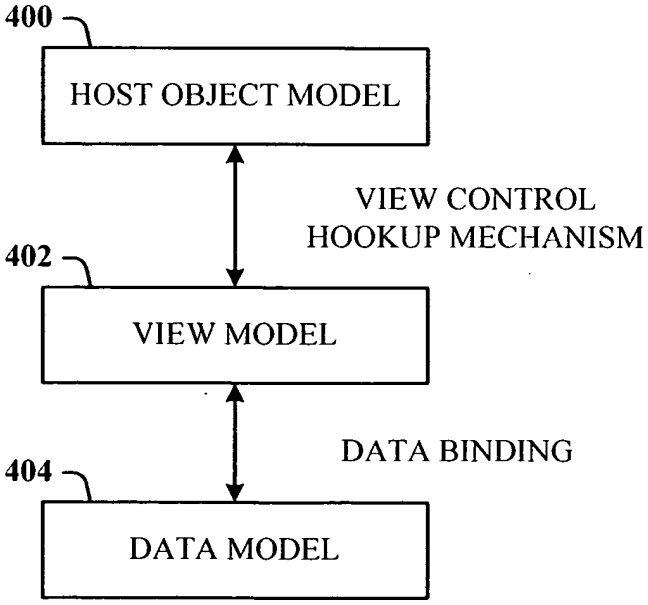
400
HOST OBJECT MODEL
VIEW CONTROL
HOOKUP MECHANISM
402
VIEW MODEL
DATA BINDING
404
DATA MODEL

FIG. 4

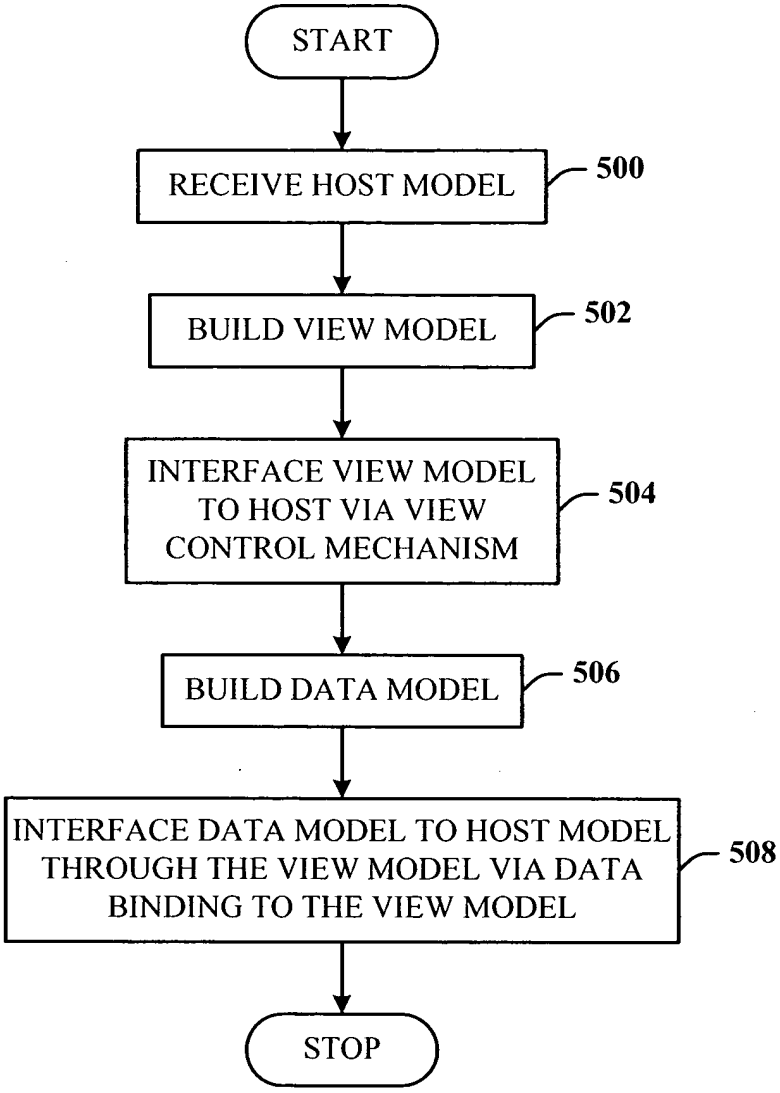
START
RECEIVE HOST MODEL
500
BUILD VIEW MODEL
502
INTERFACE VIEW MODEL TO HOST VIA VIEW CONTROL MECHANISM
504
BUILD DATA MODEL
506
INTERFACE DATA MODEL TO HOST MODEL THROUGH THE VIEW MODEL VIA DATA BINDING TO THE VIEW MODEL
508
STOP

FIG. 5

600

SPREADSHEET

	A	B	C	D
1				
2		NAME:	John Doe	
3		E-MAIL:	jdoe@company.com	
4		EMPLOYEE#:	100231	
5		PURPOSE:	Very important	
6			conference	
7		DATE	Description of	Cost
8		1-JAN	Expense	$ 20.00
9		2-JAN	Dinner	$ 10.00
10			Breakfast	$ 30.00
11				

FIG. 6

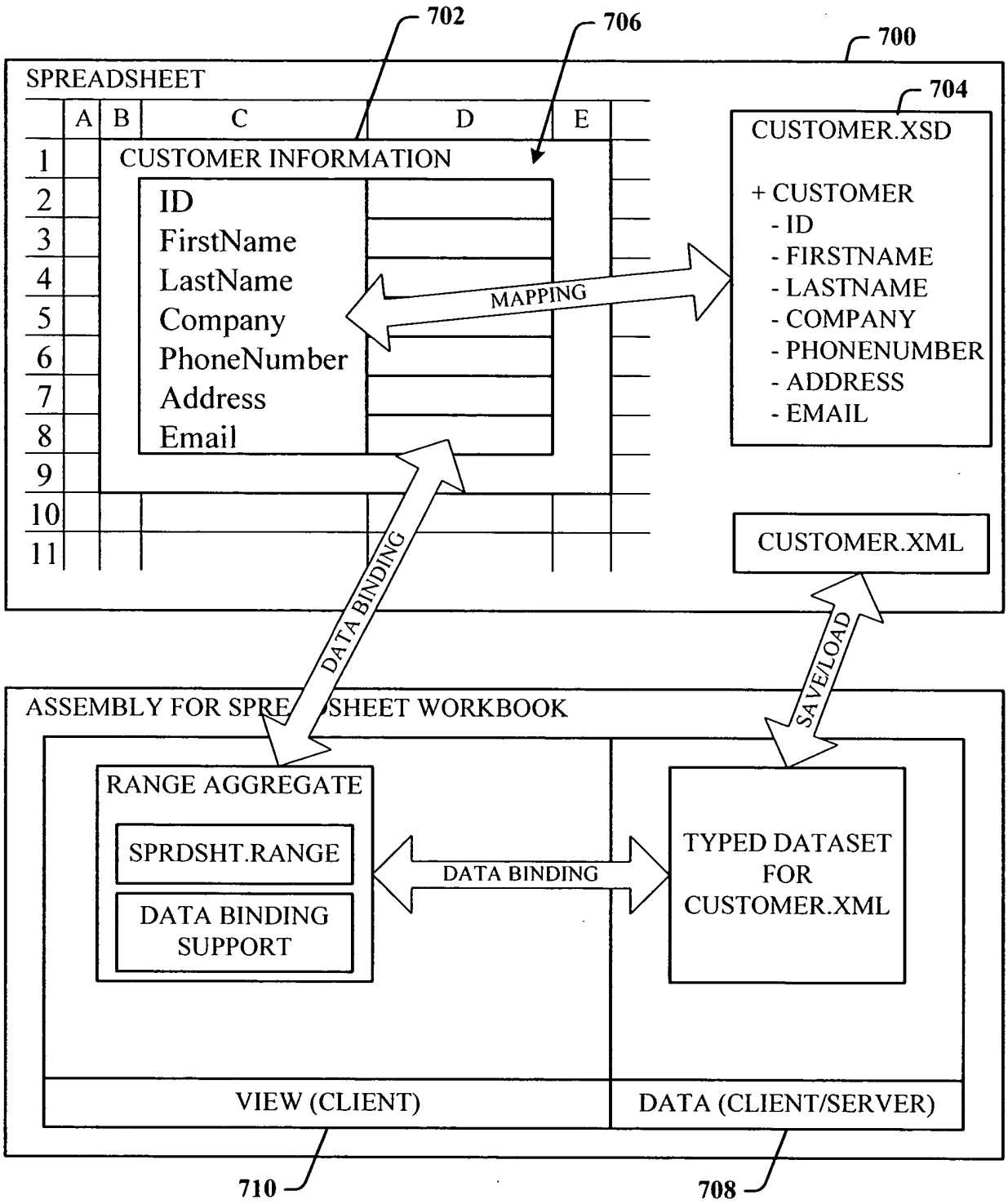
702
706
700
SPREADSHEET
704
A
B
C
D
E
CUSTOMER.XSD
1
CUSTOMER INFORMATION
+ CUSTOMER
2
ID
- ID
3
FirstName
- FIRSTNAME
4
LastName
- LASTNAME
MAPPING
5
Company
- COMPANY
6
PhoneNumber
- PHONENUMBER
7
Address
- ADDRESS
8
Email
- EMAIL
9
10
CUSTOMER.XML
11
DATA BINDING
SAVE/LOAD
ASSEMBLY FOR SPRE SHEET WORKBOOK
RANGE AGGREGATE
SPRDSHT.RANGE
DATA BINDING
TYPED DATASET FOR CUSTOMER.XML
DATA BINDING SUPPORT
VIEW (CLIENT)
DATA (CLIENT/SERVER)
710
708

FIG. 7

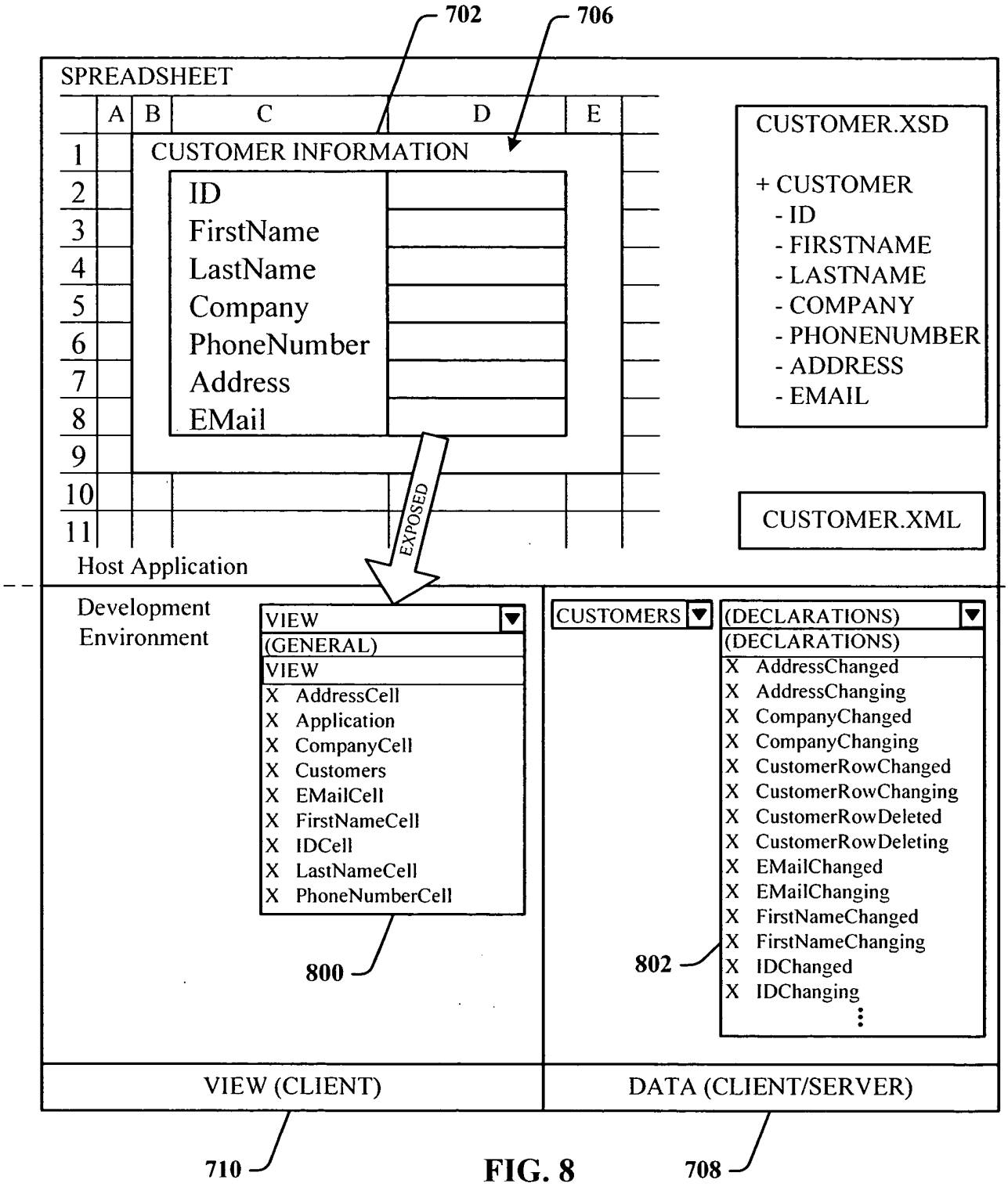
702
706
SPREADSHEET
A
B
C
D
E
1
2
3
4
5
6
7
8
9
10
11
CUSTOMER INFORMATION
ID
FirstName
LastName
Company
PhoneNumber
Address
EMail
CUSTOMER.XSD
+ CUSTOMER
- ID
- FIRSTNAME
- LASTNAME
- COMPANY
- PHONENUMBER
- ADDRESS
- EMAIL
EXPOSED
CUSTOMER.XML
Host Application
Development Environment
VIEW
(GENERAL)
VIEW
X AddressCell
X Application
X CompanyCell
X Customers
X EMailCell
X FirstNameCell
X IDCell
X LastNameCell
X PhoneNumberCell
800
CUSTOMERS
(DECLARATIONS)
(DECLARATIONS)
X AddressChanged
X AddressChanging
X CompanyChanged
X CompanyChanging
X CustomerRowChanged
X CustomerRowChanging
X CustomerRowDeleted
X CustomerRowDeleting
X EMailChanged
X EMailChanging
X FirstNameChanged
X FirstNameChanging
X IDChanged
X IDChanging
802
VIEW (CLIENT)
DATA (CLIENT/SERVER)
710
708

FIG. 8

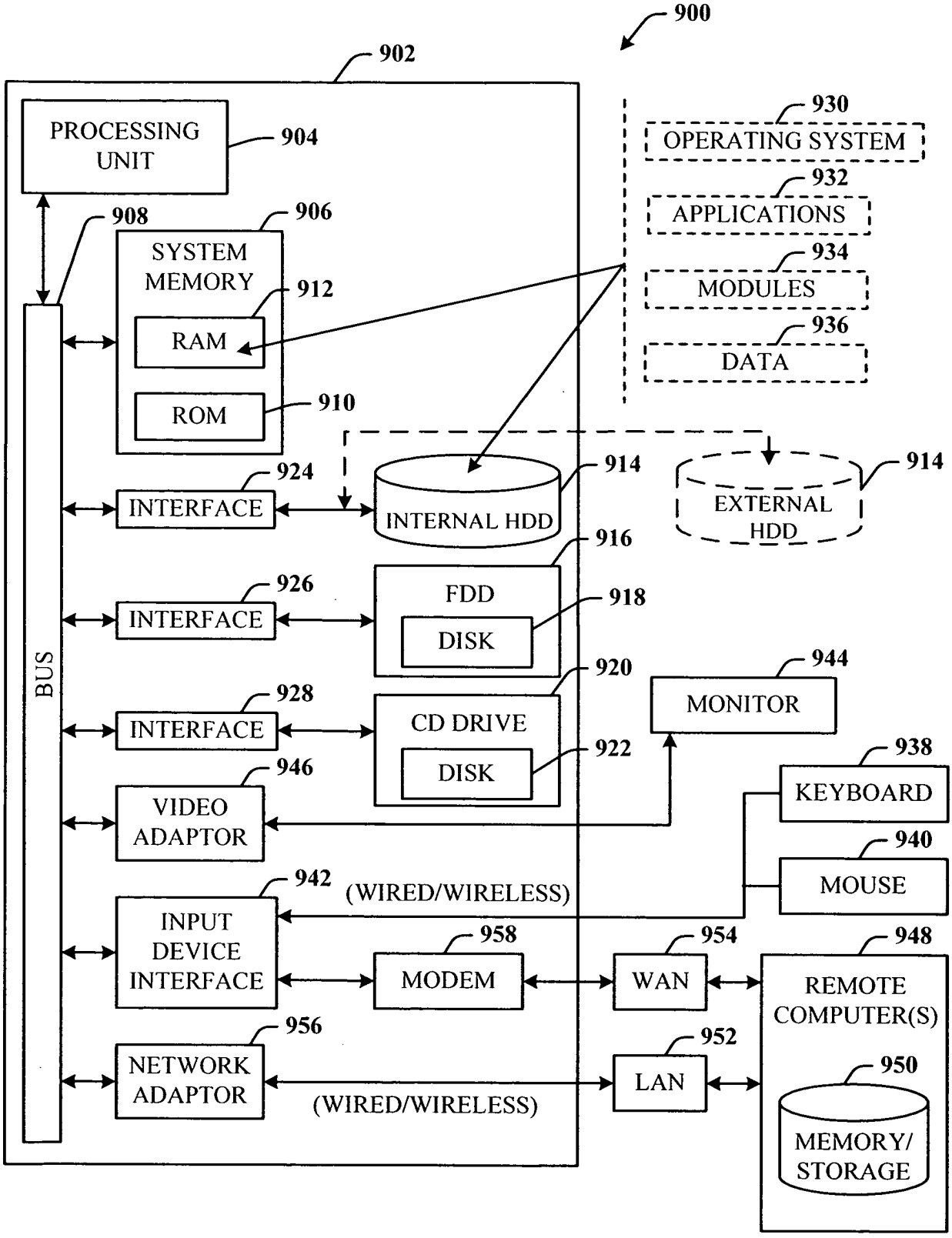
900
902
PROCESSING UNIT
904
930
OPERATING SYSTEM
932
APPLICATIONS
934
MODULES
936
DATA
908
906
SYSTEM MEMORY
912
RAM
910
ROM
924
INTERFACE
914
INTERNAL HDD
914
EXTERNAL HDD
916
926
INTERFACE
FDD
918
DISK
920
928
INTERFACE
CD DRIVE
922
DISK
944
MONITOR
946
VIDEO ADAPTOR
938
KEYBOARD
940
MOUSE
942
(WIRED/WIRELESS)
INPUT DEVICE INTERFACE
958
MODEM
954
WAN
948
REMOTE COMPUTER(S)
956
NETWORK ADAPTOR
952
LAN
950
MEMORY/ STORAGE
(WIRED/WIRELESS)
BUS

FIG. 9

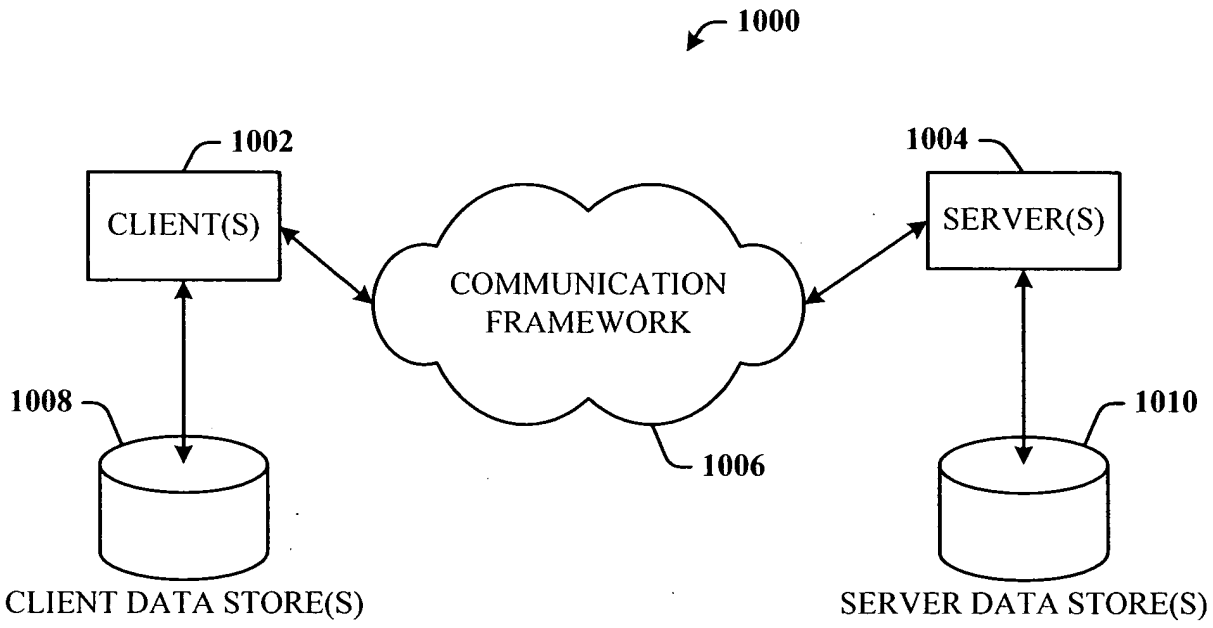
1000
1002
CLIENT(S)
1004
SERVER(S)
COMMUNICATION FRAMEWORK
1006
1008
1010
CLIENT DATA STORE(S)
SERVER DATA STORE(S)

FIG. 10